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CLAIMS

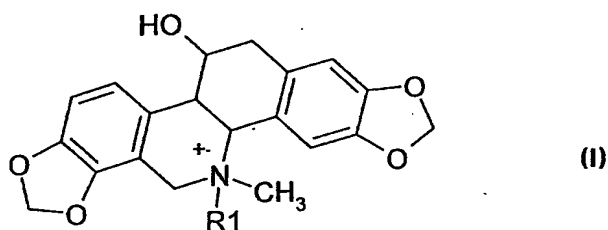
1. An alkaloid reaction product, comprising at least one alkaloid derivative obtained through reaction of one or more alkaloids with an
5 alkylating agent, wherein in the derivative an initially tertiary nitrogen is present in quaternary form to which, as a fourth ligand, a hydrogen residue or a residue originating from the alkylating agent is bound, the residue preferably being selected from the group consisting of a methyl, ethyl, and tris(1-aziridinyl)phosphine sulphide residue, or from a part of tris(1-
10 aziridinyl)phosphine sulphide.
2. The alkaloid reaction product according to claim 1, wherein at least one alkaloid derivative is present in the form of a water-soluble salt, preferably in the form of a hydrochloride.
- 15 3. The alkaloid reaction product according to claim 1 or 2, wherein the alkaloid is at least one alkaloid present in the herb *Chelidonium majus* L., preferably a mixture of several or all alkaloids of *Chelidonium majus* L.
- 20 4. The alkaloid reaction product according to any one of claims 1 to 3, wherein the alkaloid is selected from the group consisting of chelidonine, protopin, stylopin, allocryptopin, homochelidonine, sanguinarine, chelamidine, chelamine, L-sparteine and oxychelidonine.
- 25 5. The alkaloid reaction product according to any one of claims 1 to 4, wherein chelidonine, oxychelidonine, or methoxychelidonine is present as a sole alkaloid source.
- 30 6. The alkaloid reaction product according to any one of claims 1 to 5, wherein the product further comprises at least one compound selected from the group consisting of unreacted tertiary alkaloids, unreacted alkylating agent, and decomposition products of the alkylating agent.
7. The alkaloid reaction product according to any one of claims 1 to 6,
35 wherein the product is further characterized by at least one analytical showing selected from the group consisting of the NMR spectrum in Fig.4,

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the UV spectrum in Fig.5, the mass spectrum in Figures 7 and 8, and the elementary analysis in Table 1.

8. An alkaloid reaction product according to any one of claims 1 to 7,
5 obtainable in a process defined in any one of claims 11 to 22.

9. A chelidonin derivative, wherein the naturally occurring chelidonin is present in a quaternated form according to the subsequent formula (I),



10 wherein as a fourth ligand R1 to the quaternary nitrogen a hydrogen or a methyl or ethyl residue is present.

10. The chelidonin derivative of claim 9 in water soluble form, preferably as a salt with a strong acid, most preferably in the form of a hydrochloride.

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11. A process for the manufacture of an alkaloid reaction product defined in claim 1 comprising:

- a) providing a reaction mixture comprising an organic solvent and at least one alkaloid having a tertiary nitrogen in its chemical structure and an alkylating agent, and carrying out an alkylation reaction by reacting the at
20 least one alkaloid with the alkylating agent in the presence of the organic solvent, to allow for the formation of at least one reaction product wherein alkylation occurs at the tertiary alkaloid nitrogen thus converting the tertiary nitrogen into a quaternary nitrogen;
- 25 b) after termination of the reaction subjecting the resulting reaction mixture to at least one washing step with an aqueous solvent or water, to remove water-soluble compounds present in the reaction mixture; and
- c) subjecting the washed reaction mixture to a treatment with a strong acid in gaseous or liquid form, preferably with gaseous hydrogen chloride or
30 a hydrogen chloride solution, for converting at least one remaining reaction product into a water soluble form, particularly a water-soluble salt.

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12. The process of claim 11 wherein in step c) a reaction product precipitates during or after the treatment with acid, whereafter the precipitate is separated from the organic solvent, and optionally further
5 purified preferably using organic solvents.

13. The process of claims 11 or 12, wherein the alkylation reaction is carried out at elevated temperature, in particular at the boiling point of the solvent.
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14. The process according to any one of claims 11 to 13, wherein at least one alkaloid present in the herb *Chelidonium majus* L., preferably a mixture of several or all alkaloids of *Chelidonium majus* L., is used as an alkaloid source.

15. The process according to any one of claims 11 to 14, wherein the alkaloid is selected from the group consisting of chelidonine, protopin, stylopin, allocryptopin, homochelidonine, sanguinarine, chelamidine, chelamine, L-sparteine and oxychelidonine.
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16. The process according to any one of claims 11 to 15, wherein chelidonine, oxychelidonine, or methoxychelidonine is applied as a sole alkaloid source.
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17. The process according to any one of claims 11 to 16, wherein the alkylating agent is a physiologically active agent, preferably a cytotoxic agent.
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18. The process according to any one of claims 11 to 17, wherein the alkylating agent is water soluble or decomposes into water-soluble components upon contact with water.
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19. The process according to any one of claims 11 to 18, wherein the organic solvent facilitates or contributes to the alkylation reaction and preferably is selected from the group consisting of monochloromethane, dichloromethane, trichloromethane, monochloroethane, dichloroethane and trichloroethane.
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20. The process according to any one of claims 11 to 19, wherein the alkylating agent is tris(1-aziridiny)phosphine sulphide (CAS 52-24-4).

5 21. The process according to any one of claims 11 to 20, wherein the reaction product comprises at least one compound selected from the group consisting of chelidonine, oxychelidonine and methoxychelidonine, wherein said compound has a quaternary nitrogen atom to which, as a fourth ligand,
10 bound, the residue preferably being selected from the group consisting of a methyl, ethyl and tris(1-aziridiny)phosphine sulphide residue.

22. The process according to any one of claim 21, wherein tris(1-aziridiny)phosphine sulphide is used as the alkylating agent and wherein said
15 residue is a part of said alkylating agent, optionally a decomposition product formed due to the treatment with acid.

23. Use of the reaction product defined in any one of claims 1 to 10 as a drug or medicament.
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24. Use of the reaction product defined in any one of claims 1 to 10 for the manufacture of a pharmaceutical composition for the prophylaxis or treatment of a disease or bodily condition selected from the group consisting of viral infection, cancer, immunological dysfunction, metabolic dysfunction
25 and radiation damage.

25. Use according to claim 24, wherein the disease is selected from the group consisting of allergies, osteoporosis, skin tumours, influenza virus infections, rheumatic diseases, scars, postoperative wounds, epilepsy and
30 multiple sclerosis.